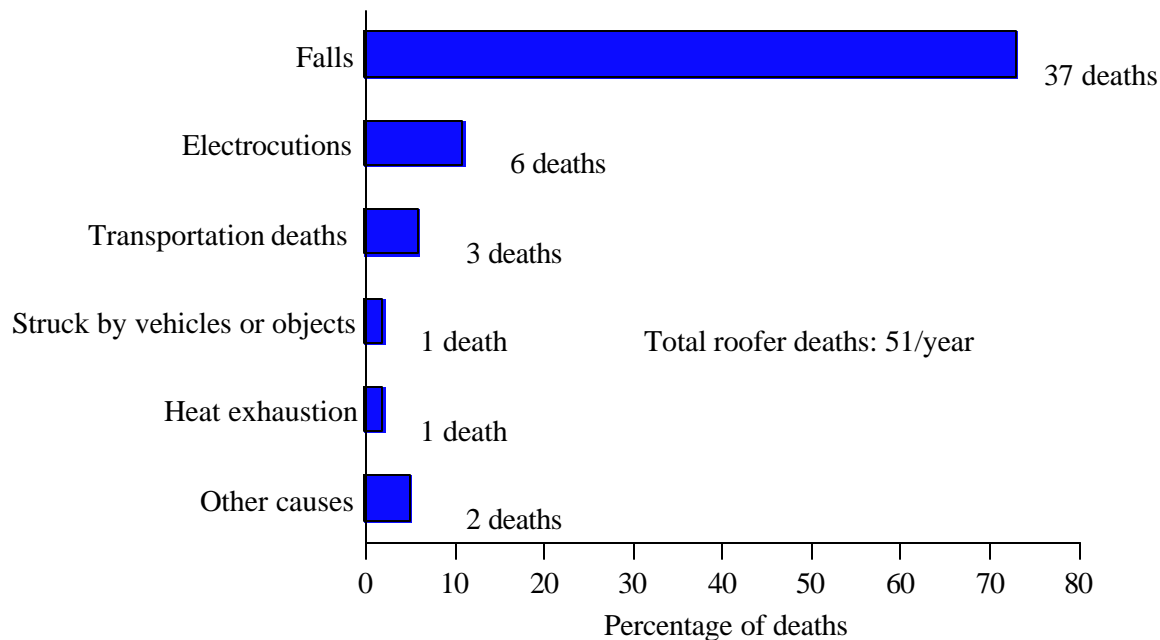


Causes of Roofer Deaths

Michael McCann

Roofers have the fifth-highest work-related death rate in construction, 29.9 deaths per 100,000 full-time equivalent workers, about twice the average for all construction of 15.2. About 50 roofers are killed on the job each year, most by falls (chart 1). The information in government reports suggests that inadequate fall protection is responsible for most of the fatal falls.

1. Causes of work-related deaths, roofers, United States, yearly average, 1992-98



Note: A total of 359 deaths was analyzed for the seven years. Yearly numbers do not add up to 51 because of rounding. Transportation incidents involved roofers being killed while traveling to or from a work site. "Other causes" include being caught in/between machinery, tar and asphalt burns, explosions of asphalt kettles, and homicides.

Source: Data from Census of Fatal Occupational Injuries, U.S. Bureau of Labor Statistics.

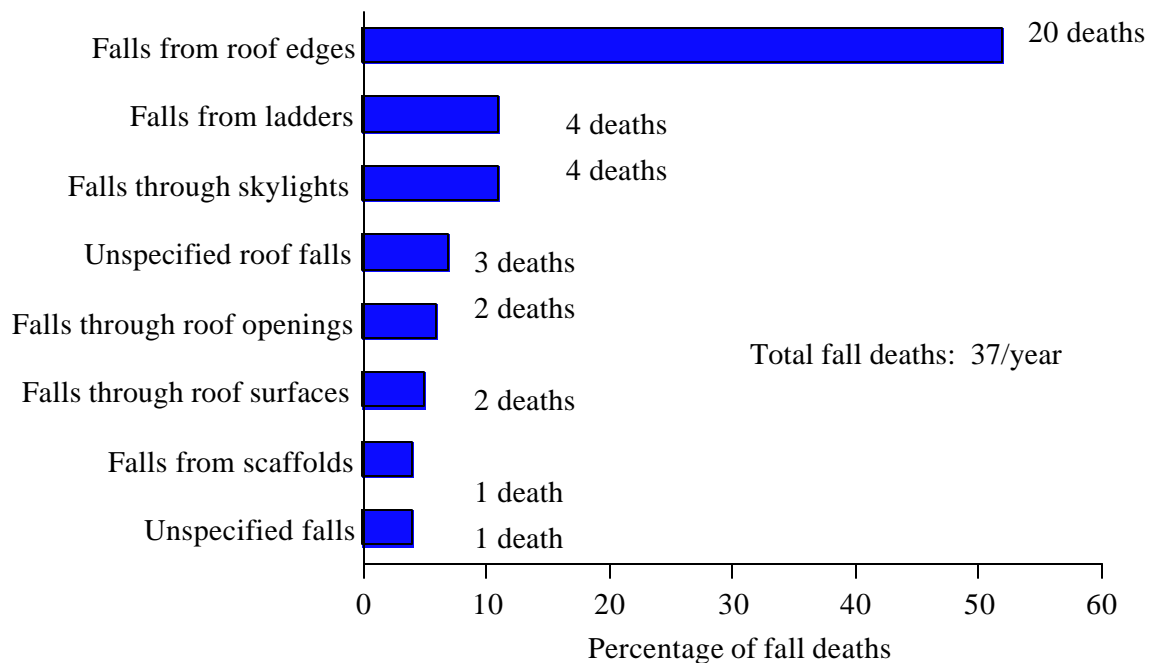
Electrocutions – 11% of the total – were caused mostly by contact with overhead power lines, although being struck by lightning was also a risk.

Falls from roof edges accounted for half of the fall deaths or less than two-thirds of the fall deaths from roofs (chart 2). For roofers in residential construction, falls from roof edges accounted for 70% of work-related-fall deaths and 90% of roof fall deaths. These statistics suggest that

Michael McCann, PhD, CIH, is director of ergonomics and safety at the Center to Protect Workers' Rights, the research and development institute of the Building and Construction Trades Department, AFL-CIO.

adequate roof-edge fall protection is not being provided. Guardrails, safety nets, or personal fall-arrest systems could have prevented most of these deaths. OSHA allows the use of warning lines (to mark off roof-edge danger zones) and safety monitors (to warn workers when they are in danger) in low-slope roofing work (29 CFR 1926.501(b)(10)), but the effectiveness of the two measures has not been demonstrated.

2. Causes of deaths from falls, roofers, United States, yearly average, 1992-98



Note: A total of 262 fall deaths was analyzed for the seven years. Numbers do not add up to 37 because of rounding.

Source: U.S. Bureau of Labor Statistics

Residential roofers had almost twice the percentage of fatal falls from ladders compared to all roofers, probably because ladders are used more often in residential work. Almost all of the skylight falls were in commercial roofing.

What Can Be Done

These procedures could prevent most work-related deaths of roofers.

Contractors should:

Conduct safety training, especially on fall safety, electrical safety, and vehicle safety.

Instead of safety lines and safety monitors to prevent roof-edge falls, consider using more-traditional means, such as guardrails and personal fall-arrest systems.

Place guardrails around skylights and place solid covers on roof openings.

Contact utility companies to de-energize or insulate overhead power lines before work begins nearby.

Roofers should:

Make sure they are trained in safety on the job.

Ask employers to provide adequate fall protection.

Keep at least 10 feet away overhead power lines that are live or may be live.

Practice defensive driving.